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EXAMINER

LEUNG, CHRISTINA Y

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2633 | |

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/038,502 | Applicant(s) COSTA, PIERRE | |
| | Examiner Christina Y. Leung | Art Unit 2633 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-31 is/are rejected.
 7) ☒ Claim(s) 19 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>08 April 2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 19 is objected to because of the following informalities:

Claim 19 recites “wherein the optical switch is modify” in lines 1 and 2 of the claim.

Examiner respectfully suggests that Applicants amend the phrase to “wherein the optical switch is *to* modify” for grammatical reasons. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 5, 6, 11, 13, 15, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoard et al. (US 6,631,481 B1).

Regarding claim 11, Hoard et al. discloses an apparatus (Figure 6) comprising:

an optical splitter 30 to split an optical stream (from input 14) into a primary optical stream and a secondary optical stream (column 6, lines 6-7. Hoard et al. also discloses that the stream may be optical, and that an optical splitter may be used accordingly; column 5, lines 10-14) ;

an optoelectronic converter (in waveform analyzer 34) to convert the secondary optical stream to an electrical signal;

a processor (including waveform analyzer 34; column 6, lines 9-15) to process the electrical signal to identify a particular portion of the optical stream;

an optical delay 42 to delay the primary optical stream to provide a delayed optical stream; and

an optical switch (either frequency domain transient filter 26, which is triggered to distort the frequency of the signal, or distortion injector 38 and combiner 46, which work together to trigger amplitude changes in the signal; column 5, lines 42-53; column 6, lines 11-20) responsive to the processor to modify the particular portion of the delayed optical signal.

Similarly, regarding claim 1, Hoard et al. disclose a method (Figure 6) comprising:

splitting an optical stream (from input 14) into a primary optical stream and a secondary optical stream (using splitter 30);

converting the secondary optical stream to an electrical signal (in waveform analyzer 34);

processing the electrical signal to identify a particular portion of the optical stream (using waveform analyzer 34);

delaying the primary optical stream to provide a delayed optical stream (using delay line 42); and

modifying the particular portion of the delayed optical signal (using filter 26 and/or distortion injector 38; column 5, lines 42-53; column 6, lines 11-20).

Regarding claims 3 and 13, Hoard et al. disclose that the processor (waveform analyzer 34 and waveform generator 36) generates a gating signal at the particular position based on the processing (column 5, lines 21-25 and lines 39-45; column 6, lines 9-20), and that the optical

switch modifies the particular portion based on the gating signal (column 5, lines 39-45; column 6, lines 9-20).

Regarding claims 5 and 15, Hoard et al. disclose that the optical switch modifies the particular portion by suppressing at least one bit in the particular portion of the delayed optical stream (Hoard et al. in particular disclose that the portion of the stream may be attenuated; column 5, lines 48-49).

Regarding claims 6 and 16, Hoard et al. disclose that the particular portion comprises a particular bit position in the optical stream (column 2, lines 21-31).

4. Claims 21-23 and 25-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Barton (US 5,646,997 A).

Regarding claim 21, Barton discloses a method comprising:

identifying a particular portion of an in-transit SMPTE-standard digital video stream, the particular portion selected from the group consisting of an active video portion, a horizontal ancillary data portion, a vertical ancillary data portion, a start active video timing portion and an end active video timing portion; and

introducing at least one bit error in the particular portion of the in-transit SMPTE-standard digital video stream (column 4, lines 44-46; column 5, lines 10-24; column 7, lines 31-45).

Barton particularly discloses introducing at least one bit error in a series of luminance values in a SMPTE stream as an example of a "particular portion" of the stream (column 7, lines 38-45); it would be well understood in the art that such luminance values may be part of the

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active video portion of the video stream. Barton also discloses that the method may be accomplished in real time on a video stream that is in transit (column 9, lines 56-58).

Regarding claim 22, Barton discloses that the in-transit SMPTE-standard digital video stream comprises an in-transit SMPTE259M digital video stream (column 5, lines 10-24).

Regarding claim 23, Barton discloses

decoding the in-transit SMPTE-standard digital video stream having the at least one bit error to produce a plurality of video frames; and

examining an effect of the at least one bit error on at least one of the video frames (column 5, lines 3-24; column 11, lines 29-33).

Regarding claim 25, Barton discloses that the in-transit SMPTE-standard digital video stream is embodied by an electrical signal (column 5, lines 10-25).

Regarding claim 26, Barton discloses an apparatus (Figure 3) comprising:

a processor (including control programmable logic device 300) to identify a particular portion of an in-transit SMPTE-standard digital video stream, the particular portion selected from the group consisting of an active video portion, a horizontal ancillary data portion, a vertical ancillary data portion, a start active video timing portion and an end active video timing portion (column 9, lines 53-58; column 10, lines 26-48); and

a switch (bit merger 302) responsive to the processor to introduce at least one bit error in the particular portion of the in-transit SMPTE-standard digital video stream (column 10, lines 49-57).

Similarly, regarding claim 29, Barton discloses an apparatus (Figure 3) comprising:

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a logic component (the circuit shown in Figure 3 including control programmable logic device 30 and bit merger 302) to identify a particular portion of an in-transit SMPTE-standard digital video stream, the particular portion selected from the group consisting of an active video portion, a horizontal ancillary data portion, a vertical ancillary data portion, a start active video timing portion and an end active video timing portion, and to introduce at least one bit error in the particular portion of the in-transit SMPTE-standard digital video stream (column 9, lines 53-58; column 10, lines 26-48).

Again, Barton particularly discloses introducing at least one bit error in a series of luminance values in a SMPTE stream as an example of a "particular portion" of the stream (column 7, lines 38-45); it would be well understood in the art that such luminance values may be part of the active video portion of the video stream.

Regarding claims 27 and 30, Barton discloses that the in-transit SMPTE-standard digital video stream comprises an in-transit SMPTE259M digital video stream (column 5, lines 10-24; column 7, lines 38-45).

Regarding claims 28 and 31, Barton discloses a decoder to decode the in-transit SMPTE-standard digital video stream having the at least one bit error to produce a plurality of video frames (column 5, lines 3-24; column 11, lines 29-33).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoard et al. in view of Warbrick et al. (US 6,694,098 B1).

Regarding claims 2 and 12, Hoard et al. disclose recovering a data signal and identifying the particular portion based on the data signal, and further disclose that the processing includes coordinating the timing between the two signals in the two paths (i.e., the signal being analyzed by the waveform analyzer and the signal being delayed by the delay line; column 6, lines 54-60), but they do not specifically disclose recovering a clock signal.

However, Warbrick et al. teach a system (Figure 3) related to the one disclosed by Hoard et al. including splitting an optical signal 40 into a primary stream and a secondary stream, delaying the primary stream (using delay 62), and converting the secondary stream into an electrical signal and processing it to identify a portion of the optical stream (column 4, lines 53-67; column 5, lines 1-19). Warbrick et al. further teach controlling the timing of the signals may include recovering a clock signal (column 6, lines 55-61). Regarding claims 2 and 12, it would have been obvious to a person of ordinary skill in the art to specifically include a clock recovery circuit as taught by Warbrick et al. in the system and method disclosed by Hoard et al. in order to ensure that the timing of the two signals in the two paths is precisely controlled and that the correct particular portion of the primary signal is properly identified/modified.

7. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoard et al.

Regarding claims 4 and 14, Hoard et al. do not specifically disclose inverting at least bit in the stream, but they do disclose altering the amplitude of a portion of the stream. It would be well understood in the art that providing the amplitude distortion disclosed by Hoard et al. would

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inherently invert bits in a portion of an amplitude modulated stream (by changing 0s in the stream to 1s, etc.). Hoard et al. do not specifically disclose amplitude modulated signals, but amplitude modulation communications systems are commonly known, and therefore, it would have been obvious to a person of ordinary skill in the art to use such signals in the communication system disclosed by Hoard et al. as an engineering design choice of a known way to provide the data signal using known communications devices.

8. Claims 7-10 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoard et al. in view of Barton.

Regarding claims 7-10 and 17-20, Hoard et al. do not specifically disclose that the optical stream comprises a SMPTE-standard video stream. However, SMPTE-standard video streams, and SMPTE259M video streams in particular, are known standard formats for video data, as Barton particularly teaches (column 5, lines 14-17).

Regarding claims 9, 10, 19, and 20 in particular, Hoard et al. already disclose that the modifying the particular portion of the signal introduces at least one bit error in the stream (column 4, lines 13-15). Barton et al. further teach introducing errors in SMPTE259M streams in order to embed additional information into the stream such as for authentication purposes, wherein a particular portion to be modified may be part of an active video portion (column 4, lines 43-45; column 5, lines 10-24; column 7, lines 38-45).

Regarding claims 7-10 and 17-20, it would have been obvious to a person of ordinary skill in the art to use SMPTE259M video streams as taught by Barton in the system and method for modifying a stream disclosed by Hoard et al. in order to test the transmission of such

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commonly known SMPTE259M video streams and improve the communication of video data in a network.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barton.

Regarding claim 24, Barton does not specifically disclose that the in-transit SMPTE-standard digital video stream is embodied by an optical signal. However, optical networking is well known in the art, and it is further well understood in the art that optical networking particularly provides high speed and high capacity transmission of data. Barton already suggests that video signals such as disclosed are commonly transmitted over networks (column 1, lines 16-20). It would have been obvious to a person of ordinary skill in the art to use an optical signal as the in-transit SMPTE-standard digital video stream in the method disclosed by Barton in order to advantageously transmit it at high speeds on optical networks.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023.

The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christina Y Leung
Christina Y Leung
Patent Examiner
Art Unit 2633